

# SENTIERI – OCCUPATIONAL EXPOSURE CONTRIBUTION TO MORTALITY: THE CASE OF MASSA CARRARA POLLUTED SITE

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**Background and Aims:** SENTIERI project is aimed to describing health status of resident populations in Italian polluted sites defined as “of national concern” (Ministerial Decree n. 486, 2001, and successive Decrees) using mortality data. Identified sources of contamination were categorized as chemical industry, petrochemical plants & refineries, harbour area, asbestos or other mineral fibers, steel plants, thermoelectric power plants, mines or quarries, landfills, incinerators. Sixty-three groups of causes of death (ICD IX) were selected.

**Methods:** A descriptive analysis (1995-2002) of mortality for both gender was performed calculating Standardised Mortality Ratio (SMR), crude and adjusted for deprivation (90% Confidence Intervals). Regional population was used for comparison. SENTIERI adopted an *a priori* definition of contaminated site and an *a priori* evaluation of the epidemiological evidence of the association between *environmental exposure/s* and cause specific mortality. Epidemiologists in working group examined bibliographic information, assessing the presence of a causal association between environmental exposure/s and cause specific mortality following standardised criteria. Evidence was classified as: Sufficient or Limited to infer the presence of a causal association, Inadequate to infer the presence or absence of a causal association. To take account of occupational exposures, authoritative publications were considered.

**Results:** As an example, the case of Massa Carrara will be presented, as it is among the most complex polluted sites in terms of environmental contamination (asbestos, production of chemical substances, harbour area, incinerator, petrochemical plant and/or refinery, steel industry). Increased risk of death from several causes were found: diseases of cardiovascular, respiratory and digestive systems, malignant neoplasms of liver, lung, pleura.

**Conclusions:** The potential contribution of previous occupational exposures to overall mortality in the polluted sites should not be overlooked, and the *a priori* SENTIERI approach seems to be fruitful.

**References:** Pirastu R, Ancona C, Iavarone I, Mitis F, Zona A, Comba P. SENTIERI Project - Mortality study of residents in Italian polluted sites: evaluation of the epidemiological evidence. *Epidemiol Prev.* 2010; 5-6 (Suppl 3):1-96.